

Salmonellosis (excluding Typhoid and Paratyphoid)

(Notifiable)

Description: Salmonellosis produces a classical gastroenteritis with pronounced, occasionally bloody, diarrhoea. Ninety five percent of cases are foodborne.

Annual Numbers: Between 350 and 450 cases per year.

Seasonal Distribution: There is a seasonal peak during the summer months.

Causative Agent: *Salmonella enterica* of which there are approx 2,500 serotypes. *S. enterica* Typhimurium and *S. enterica* Enteritidis are the most frequent causes of salmonellosis in Ireland.

Reservoir: GI tract of many wild and domestic animals, birds (especially poultry), reptiles and amphibians.

Transmission: Usually foodborne. Person to person spread is also possible usually during the acute diarrhoeal phase of the illness. Contact with infected animals may also lead to infection.

Outbreak Potential: *Salmonella* has high outbreak potential if transmitted through food.

Incubation period: from 6-72 hours (generally 12-36 hours)

Infectivity: throughout course of infection - may be up to a number of weeks especially in carrier state. Infectivity much greater when patient is symptomatic.

Epidemiology: Foodborne from animal reservoir (poultry, eggs, pigs and reptiles). A significant degree of underreporting occurs, with estimates of 36 unreported for every reported in the US and approximately 3 unreported for each reported in the UK. In Ireland under-reporting is difficult to quantify, but it is likely that for every one case of *Salmonella enterica* reaching national the national surveillance system, there are about 4-5 cases that remain undetected in the community.¹ The greatest degree of under-reporting is likely to occur in the 15-65 age category as these are less likely to present to GP (particularly in those groups who have to pay for GP visits). Spread from food handlers is not uncommon. The infectious dose is quite large; about 1000 cells to produce clinical disease in an immunocompetent adult.

Exposure-prone groups: Residents in institutions, those exposed to contaminated foods (especially poultry, eggs), food handlers.

Clinical Features: Headache (75%), abdominal pain (90%), diarrhoea, nausea, fever (almost 90% of cases) and occasionally vomiting. Diarrhoea may be bloody (>20% of cases). Median duration of symptoms is 6-7 days but in 25% of cases will have diarrhoea at 14 days. Reactive arthritis is possible within a month of exposure.

Clinical Management of Cases

Enteric precautions. Manage symptomatically. Occasionally, severe invasive disease may require appropriate antibiotic treatment. If antimicrobial agents are considered necessary, this can be discussed with the microbiology laboratory as susceptibility testing may have been performed but not reported. The case should be notified to the local Department of Public Health. It is important to determine if the case is aware of similar cases suggesting the possibility of an outbreak. Determine if case is in a risk category.

Salmonellosis is mainly foodborne (>95% of cases) - for every case microbiologically confirmed there are probably four cases that go undiagnosed in the community

Public Health Management of Cases

Obtain three day food, travel and animal exposure history (forms are available at <http://www.hpsc.ie/hpsc/A-Z/Gastroenteric/Salmonellosis/SurveillanceForms>). Determine if linked cases.

Food Hygiene Implications: Food hygiene re-education is necessary for food handlers.

Public Health Management of Contacts

Clinical surveillance. Reinforce hygiene advice.

Exclusion: Until 48hr after first normal stool.

Microbiological Clearance: None.

Notifiable: to the local [Medical Officer of Health](#).

1. de Jong B, Ekdahl K. The comparative burden of salmonellosis in the European Union member states, associated and candidate countries. BMC Public Health. 2006 Jan 10;6:4.